Leaf blight of garlic is a destructive disease in Hubei province, China. Symptoms were observed on infected leaves in Danyang County from autumn 2004 to spring 2007, with the diseased area estimated to be over 7000 ha. Garlic yield was reduced by 30% on average with up to 70% yield losses in some fields. Lesions were initially small and white, and these enlarged to produce apical necrosis, extending until the leaves withered. Isolations were made onto potato sugar agar (PSA) giving white colonies. After 4 days on PSA the centres turned grey and the agar became yellow-brown throughout. Single spores were cultured onto 2% water agar, and pieces of autoclaved filter paper were placed on the agar to induce sporulation. Conidiophores were up to 170 μm long, with 1–3 transverse septa, 2–7 longitudinal or oblique septa, and 34–35 x 17–27 μm. The fungus was identified as Stemphylium solani based on Ellis (1971). Genomic DNA was extracted from three isolates, and sequences of rDNA-ITS were based on Ellis (1971). Phylogenetic trees were performed by using conidial suspension (1 × 10^6 conidia/mL) containing 0.1% Tween-20 until runoff (200 mL per plant) onto upper and lower surfaces of 20 garlic leaves of seven 14-day-old 20-cm tall plants in the laboratory. Plants were incubated with a 12 h photoperiod at 25°C and 90% relative humidity. Five days after inoculation, white spots were observed on inoculated leaves but no symptoms were seen on water-treated control plants. Koch's postulates were fulfilled by re-isolating S. solani from diseased leaves. Leaf blight of garlic is caused by S. botryosum, S. vesicarium, (Boiteux et al., 1994) or Cladosporium echinulatum (Pal & Basachaudhary, 1976). In China, only S. vesicarium has been reported as a pathogen of garlic (Shang et al., 1997) but this is the first report of S. solani infecting garlic.

References


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Occurrence of Grovesinia pyramidalis on soursop and avocado in Brazil
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The discomycete Grovesinia pyramidalis [anamorphs Sclerotium cinnamoni and Himomycetes moricola, comb. nov.] synonyms Cristularella pyramidalis and C. moricola (Narumi-Saito et al., 2006; Cline et al., 2009) causes leaf spots on many woody plants (Sinclair et al., 1999). In 1999, 2002, 2003 and 2006, in southern Bahia it was commonly observed on soursop (Annona muricata), sometimes causing serious defoliation, and was less commonly observed on avocado (Persea americana). Lesions on soursop leaves were up to 1 cm broad, round to irregular, grey-brown with dark margins. They were similar on avocado leaves, but smaller, less than 1 cm broad. Conical white structures protruded from tissue that had lesions. Slides of the structures stained in cotton-blue showed the arbuscular propagules producing phialide-like cells, but no conidia were observed. Propagules measured up to 500 μm long and 120 μm wide, at the base. They are thought to function as infective multicelled spores, dispersed by splashing water (Sinclair et al., 1999).

A fungus was isolated from lesions on potato dextrose agar (PDA) plates after 2 weeks, it formed whitish, cottony, 1 to 2 cm wide mycelial colonies with concentric zones; eight-sided crystals were observed embedded in agar in older cultures. The teleomorph stage was not seen. Discs cut from 20 days old colonies on PDA were placed on freshly cut soursop leaves in moist chamber and incubated at 25 ± 2°C for 15 days. Spots developed on the inoculated leaves that were similar to those observed in the field and the organism was re-isolated from these lesions. A similar test was performed in the field using ten healthy young leaves of a mature soursop plant inoculated in the same way and bagged in transparent polyethylene. After 15 days the same type of symptoms were observed. Inoculation experiments were not done with avocado leaves since diseased material was scarce and isolates were not available.

Annona muricata is reported as a new host of G. pyramidalis. This pathogen is also reported for first time on Persea americana in Brazil. Specimens of G. pyramidalis on these hosts have been deposited at CEPEC Herbarium (mycological collection), Cacao Research Centre, CEPLAC/CEPEC, Ilhéus, Bahia, Brazil (Accession Nos. 158, 168, 223, 378, 468, 469 and 470).

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References


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